

Batch mixing/stirring

/// Overview of the different stirrers



Anchor stirrer



Propeller stirrer



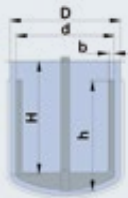
Disk stirrer



Turbine stirrer



Toothed disk stirrer



$$0.75 \leq \frac{D}{H} \leq 1$$

$$0.9 \leq \frac{d}{D} \leq 0.98$$

$$0.75 \leq \frac{h}{d} \leq 1$$

$$b \approx 0.1 \cdot d$$



$$0.5 \leq \frac{D}{H} \leq 0.75$$

$$0.1 \leq \frac{d}{D} \leq 0.5$$

$$\frac{D}{3} \leq a \leq \frac{D}{2}$$

$$B \approx 0.1 \cdot D$$



$$0.5 \leq \frac{D}{H} \leq 0.75$$

$$0.2 \leq \frac{d}{D} \leq 0.5$$

$$\frac{D}{3} \leq a \leq \frac{D}{2}$$



$$0.5 \leq \frac{D}{H} \leq 0.75$$

$$0.1 \leq \frac{d}{D} \leq 0.3$$

$$\frac{D}{3} \leq a \leq \frac{D}{2}$$

$$\alpha = 10^\circ$$



$$0.2 \leq \frac{d}{D} \leq 0.5$$

$$\frac{D}{3} \leq a \leq \frac{D}{2}$$

$$0.75 \leq \frac{D}{H} \leq 1$$

	Anchor stirrer	Propeller stirrer	Disk stirrer	Turbine stirrer	Toothed disk stirrer
Circumferential speed [m/s]	0.5 – 1.5	3 – 10	3 – 7	2 – 12	10 – 25
Max. viscosity range [mPas]	50,000	5,000	10,000	8,000	50,000



ROTOTRON RTS

/// Jet flow agitator for flexible installation

The IKA ROTOTRON RTS jet flow agitator is a universal overhead stirrer. RTS-type machines are used for homogenizing, dispersing, suspending, emulsifying, de-aeration and dissolving. The highly-efficient jet flow agitator delivers high circulation and mixing effect with low energy consumption.

The ROTOTRON RTS is suitable for eccentric top entry and from the side into vessels below the fill line. For many applications, it replaces the use of conventional agitators with long shafts.

The IKA ROTOTRON RTS can be used to process media up to a viscosity of 15,000 mPas.

Depending on application, the direction of rotation can be changed. To prevent sedimentation and floating ingredients, the flow direction is downwards. To process higher viscosities and to avoid aeration, you can change the direction of rotation and therefore the direction of flow.

Example applications

- > Food industry:
ice cream, chocolate, flavorings, drinks
- > Paint and dyes: inks, watercolors
- > Paper industry: adhesives, pulp
- > Chemical industry: dyes, fertilizers, pesticides



Optional design

Sizes RTS	Batch size max. (H ₂ O) [l]	Rotational speed [rpm]	Motor power [kW]
RTS 115	1,000	3,000	2.2
RTS 150	5,000	3,000	3
RTS 220	10,000	1,500	7.5
RTS 280	20,000	1,500	22
RTS 350	30,000	1,000	30

Advantages

- > Rapid mixing and dispersing results
- > Completely homogeneous mixing of the product in all areas of the vessel, even for critical vessel geometries
- > Energy efficient
- > No rotation of the mixture; flow breakers are not required
- > Whirlpool effects and aeration are prevented
- > Flexible installation options in vessels with a wide variety of sizes
- > No seals in the processed product
- > Interchangeable mixing heads

TURBOTRON RK/RF

/// The classic agitator



The IKA TURBOTRON is our classic agitator. Different drives, stirring tools and sealing variants allow optimal adaptation to your application.

The RK and RF type agitators do not require a gear and can be used for viscosities of up to approx. 1,000 mPas. The IKA TURBOTRON RK is designed for unpressurized applications. The bearing flange is optimized for attachment to a stand or mounting plate.

The TURBOTRON RF can also work under vacuum or pressure within a wide temperature range. On the standard version, sealing is via a shaft sealing ring made of PTFE compound (2.5 bar). Alternatively, double-acting mechanical seals for pressures of up to 10 bar are also available. The RF is designed to be attached to a vessel flange. The machine size and the stirring tool can be selected to suit your application and the installation length can be adapted to your vessel.



Sizes RK/RF	Batch size max. (H ₂ O) [l]	Rotational speed [rpm]	Motor power [kW]	Installation length [mm]
RK/RF 00	500/1,000	1,000/1,500	0.37/0.55	800/1,500
RK/RF 01	1,000/2,000	1,500	0.55/0.75	1,000/1,500
RK/RF 02	1,500/3,000	1,000	0.75/1.5	1,000/1,750
RK/RF 03	2,000/4,000	1,000	1.1/2.2	1,250/1,500
RK/RF 04	2,500/5,000	750	1.5/3	1,500/1,500
RK/RF 05	3,000/6,000	750	2.2/4	1,750/1,750
RK/RF 06	3,500/8,000	1,000	3/5.5	1,750/1,750
RK/RF 07	4,000/12,000	1,000	4/7.4	1,750/2,000

Advantages

- > Different drives are available:
for low or variable speeds
- > Machines are suitable for ambient pressure (RK) and pressure vessels (RF)
- > Optional frequency converters enable infinite speed adjustment
- > All wetted parts are stainless steel
- > Suitable for use in the food industry and pharmaceutical sector

TURBOTRON RKG/RFG

/// The best choice for high viscosities

The RKG and RFG agitators have a drive with a reduction gear and are also suitable for higher viscosities or stirring tools with larger diameters thanks to their slower speeds. The IKA TURBOTRON RKG is designed for unpressurized applications. The bearing flange is optimized for attachment to a stand or mounting plate. The IKA TURBOTRON RFG can also work under vacuum or pressure within a wide temperature range. On the standard version, sealing is via a shaft sealing ring made of PTFE compound (2.5 bar). Alternatively, double-acting mechanical seals for pressures of up to 10 bar are also available. In this case as well, the machine size and the stirring tool can be selected to suit your application and the installation length can be adapted to your vessel.



Sizes RKG/RFG	Batch size max. (H ₂ O) [l]	Rotational speed [rpm]	Motor power [kW]	Installation length [mm]
RKG/RFG 00	1,000	250	0.55	1,250/1,500
RKG/RFG 01	1,500	250	0.75	1,250/1,500
RKG/RFG 02	3,000	250	1.5	1,500/1,500
RKG/RFG 03	4,000/6,000	250	2.2/3	1,500/1,750
RKG/RFG 04	5,000/8,000	250	3/4	1,750/2,000
RKG/RFG 05	6,000/12,000	250	4/5.5	2,000/2,500
RKG/RFG 06	8,000/15,000	250	5.5/7.5	2,000/2,750
RKG/RFG 07	12,000/20,000	250	7.4/9.2	2,000/3,000

TURBOTRON RKG 00-Bo

/// The explosion-proof agitator

IKA-TURBOTRON RKG-00-Bo ATEX machines are high-performance, mechanical agitators with explosion protection for laboratories, pilot plants and small-scale production. They are designed for use in open or unpressurized vessels for processing flowing mixtures in the low and medium viscosity range. They can be easily fitted with a propeller, turbine, dissolver, centrifugal, flat or anchor stirrer using a mounting chuck.

The speed can be adjusted in a very wide range from 20 to 1,200 rpm.

The RKG-00-Bo ATEX machines are an explosion-proof alternative to the IKA RW 28 digital and RW 47 digital laboratory and pilot plant machines. The IKA-TURBOTRON RKG-00-Bo agitators that are delivered to customers in the EU are approved for operation in Ex zone 1 (2G), temperature class T3 according to ATEX 95.



Sizes RKG 00-Bo	Batch size max. [l]	Speed min. [rpm]	Speed max. [rpm]	Motor power [kW]
RKG 00-Bo 0.25 kW ATEX	80	20	1,200	0.25
RKG 00-Bo 0.55 kW ATEX	200	20	1,200	0.55
RKG 00-Bo 0.75 kW ATEX	275	20	1,200	0.75